

HAZARDS IN THE DWELLING
A PRELIMINARY ASSESSMENT OF DATA

Prepared for
the Research Division
Policy Development and Research Sector
Canada Mortgage and Housing Corporation

by

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Abstract

The Corporation contracted for the preparation of a brief overview paper to show initial dimensions of housing hazards, especially accidents in the house and the quality of indoor air. In addition, existing data bases and ongoing work and research are also described and recommendations made for further work.

In substantive terms the whole subject area is quite new, the research is scattered and, obviously, not yet focused. Recommendations are made to establish cooperative ventures, at least on the federal scene, prepare a listing of relevant government programs, as well as an inventory of products with toxic releases. And last but not least suggestions are made to assist the Corporation to focus its objectives and interest and to assess the potential influence the Corporation could bring to bear on the subject areas.

This initial report is not exhaustive by any means - it was done in a limited time frame and on a limited budget with the objective of putting on paper the scope and dimensions of a complex and emerging area to serve as a basis for future work.

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SECTION I

The present study was undertaken to provide a preliminary, "broad brush" look at data sources and research in the area of hazards in housing, in order to assist the Corporation in writing terms of reference for work in a project, entitled "Hazards in the Dwelling."

Work Statement

Specifically, the tasks included:

1. Identifying the major English language sources of information and research centres on hazards in the dwelling.
2. Commenting on the quality of available literature.
3. Proposing a form and structure for a CMHC data base.
4. Providing examples of the kind of data which could be included in such a base.

In order to fulfill the objectives of the work statement, a working definition of household hazards was required. Since this preliminary study was intended as a background to assist the Corporation in defining terms of reference for a project, "Hazards in the Dwelling" it was decided to divide hazards into two basic categories: those concerning indoor air quality and those dealing with the more physical features of buildings, i.e., poisoning, falls, fires, and burns.

This division was chosen because the approaches to the issues involved are different. The results of physical accidents - be they poisoning by ingestion or falling down stairs - are much more definitive and immediately visible than are the problems resulting from indoor air quality. While it

might be difficult to relate accidents to actual house design, the accident itself can be detailed and, if desired, traced to determine the most immediate cause. For example, when someone falls down the stairs by tripping over a shoe the event itself is clearly measurable at a specific point in time.

Indoor air quality, however, requires different kinds of observations. First, the term itself is difficult to define - are we referring to air pollutants, humidity-temperature levels, etc.? The air in the indoor environment is made up of a number of components, some of which are harmful by themselves at some levels, some of which are harmful only in combination with other air particles, and some of which are harmful at different levels to individuals with various degrees of susceptibility. At this point, however, the effects of the components of indoor air are, for the most part, unknown - as are the tolerance levels of individuals, the acceptable standards for the home environment, and the interrelationships of various air components and their impact on human beings. In addition, the results of poor air quality may take years to show up and are not easily measurable. For example, people suffering from carbon monoxide poisoning do not exhibit specific medical conditions which are exclusively related to carbon monoxide poisoning.

Methodology

To address the initial requirement of the work statement (#1 and #2) library files were searched, first at CMHC, then at other departments, including the

National Research Council, Health and Welfare Canada, and Consumer and Corporate Affairs. Computer file searches were conducted, both through NRC facilities and through CMHC's library, in order to produce the broadest access possible to published literature. When this approach proved limited -- possibly because of the breadth of the topic, the newness of the subject matter, and the fact much of the research, especially in the area of home accidents, is in manuscript form not easily retrievable through computer files -- direct contacts were initiated with government offices which might be involved in collecting, analyzing, or researching data of relevance to the general topic. Contacts subsequently were made with individuals in Consumer and Corporate Affairs, Health and Welfare, Statistics Canada, and the National Research Council. One advantage of the direct contact is that it yielded information on current work in the field.

One overall comment, however, is that much of the work being done is focused on the occupational health area or, at least, is not house-specific. While some of this data could be used for a data base on "hazards in housing" it would have to be used selectively and with the knowledge of its limitations in household uses. Obviously, some hazards are applicable to all environments, but, the research, in general, by not focusing on housing, tends to ignore those groups at greatest risk in the home: young children, the elderly and women. In the case of indoor air quality occupational standards, according to Health and Welfare officials are, in many cases, too low for household applications. Occupational standards are based on exposure of normal, healthy adults at eight hour time exposures, with time-off

in between exposure for the body to recover. Household standards need to be based on people of all ages and in all health conditions, who might spend up to 70% of their time in the indoor environment.

In the area of accidents, especially, there appears to be a fair bit of statistical data available; however, it is not available on a routine or consistent basis. Detailed data would have to be sought out on specific areas of interest -- often by working through the various professional or interest groups -- i.e., hydroelectric commissions, fire commissions, standards associations, etc. in order to obtain detailed statistics.

It is also difficult to obtain a "research program" from federal officials because, for the most part, research in this area appears to be conducted on a reactive basis. Time and again, when asked, "How do you determine what hazards you research?" I was told it was through political, public pressure, or "someone had an idea."

SECTION II

This section addresses work statements #1 and #2.

Accidents

While there is much data available in the area of accidents occurring in the home, it is fairly widely scattered. The work is, for the most part, not related directly to housing, focusing, instead, on the built environment which, of course, includes housing. However, since the dangers in this area are physical, it would probably be possible to extrapolate data on housing and hazards, once definitions are in place. But, in order to obtain the data which could be used in a detailed data base that is house specific, the Corporation would have to be prepared to allocate a fair amount of resources to its collection and maintenance.

Canadian statistics are sparse, and, even on a national level, widely scattered and aggregated. For example, data on accidental deaths are available from Statistics Canada. Figures on poisonings, as reported through poison control centres, are also available from Health and Welfare Canada; however, they are not directly related to housing or accidents. And, from preliminary discussions it was unclear as to exactly how much detailed data could be made available from the federal government. In most cases it would be necessary to go directly to the source document to obtain details required to physically locate the accident within the home.

As far as actual research in the area of home accident is concerned, work is scattered. Focusing on Canadian research efforts Jake Pauls of the National Research Council has done considerable work on stairs and stair safety. Both the Division of Electrical Engineering and Division of Building Research at the NRC are active in the field.

However, since most of the work is focused on the built environment specific criteria would have to be established for data collection on housing.

In current work, Joan Harvey, Health Facilities Branch, Health and Welfare, is preparing to contract out a study on "Accidents and the Built Environment". Joan wants to look at existing literature and data with the ultimate aim, if possible, of setting up a data base dealing specifically with the built environment.

Reflecting the mandates of different federal departments, there does not appear to be one clearly defined center of activity, and in most cases research is not related directly to housing. Because of the mandates of various departments, research and monitoring is product-related rather than house-related. If one were to look at, say, poisonings, specific data on products is split between three departments, depending on what product is involved -- Consumer and Corporate Affairs, Health and Welfare, and Agriculture Canada, while general statistics are kept by Health and Welfare through the Bureau of Epidemiology. Because of provincial jurisdictions it is difficult to determine what is available without specific requests. The

Dominion Fire Commissioner, for example, keeps general statistics on home fires, but their data is based on statistics collected by the provinces.

Jake Pauls of the NRC is establishing a Building Use and Safety Institute (BUSI) in collaboration with an American colleague. Some of the undertakings of BUSI in the next year are a one day seminar on stair safety and a general international conference on building safety. While BUSI is just being launched, Pauls says it is designed to be a "broker" in the field of building safety and human factors.

Perhaps it would be useful for the Corporation to discuss BUSI with Pauls, since Pauls appears to have established an international network of people involved with work on building safety.

The Science Council of Canada, co-sponsored with the Royal Society a "Symposium on the Assessment and Perception of Risk to Human Health in Canada" in October 1982. While the proceedings are not yet available, the report might be of interest when it is released.

In the U.S. a fair amount of research has been conducted under the sponsorship of the Consumer Product Safety Commission and the National Bureau of Standards. A deeper investigation of these two agencies, especially CPSC, would probably provide useful information on current research and specific data available. The National Institute of Occupational Safety and Health of

the Occupational Safety and Health Administration, Washington, also conducts research in the area of building safety. While their mandate is safety in the work environment, some of their work is applicable to other structures. For example, they have done research into the use of handrails. Through the Office of Policy and Development, the Department of Housing and Urban Development has sponsored research into housing safety as well.

The Buffalo Organization for Social and Technical Innovation (BOSTI) has done considerable work in the area of household safety, especially focusing on attempts to find cost effective solutions. Michael Brill of the Institute has done some definitive work on windows and window design. John Archea of Georgia Technical Institute is involved in stair research.

The Building Research Establishment of Great Britain has conducted in-depth studies in the area of home safety, including stairs, windows, fires and glass.

Indoor Air Quality

The issue of indoor air quality is quite recent but very topical. Work on the subject is widely scattered, reflecting the breadth of the topic. It tends to be medically oriented and most research is being carried out in conjunction with various medical facilities around the world.

From my perusal of the literature, it would appear that work, to one extent or another, is being carried out in all 12 areas listed by the World Health Organization as causing concern: tobacco smoke, NO₂, Co, radon, formaldehyde, SO₂, O₃(Ozone), asbestos, nonasbestos mineral fibers, organics, and allergens.

Health and Welfare Canada, through the Bureau of Chemical Hazards and a federal-provincial group which includes all provinces except Quebec is developing acceptable air quality levels for the twelve pollutants for housing. Secretary of the group is Dr. Vic Armstrong, Criteria Section, Monitoring and Criteria Division. It is anticipated the criteria levels will be established by the end of this fiscal year. The levels will be established as ideal levels for the various pollutants, from a health point of view. Achieving and maintaining these levels will not be addressed by Health and Welfare.

Meanwhile, the Monitoring group in the same Bureau is measuring indoor contaminants, both organic and inorganic, in an attempt to measure the toxicity of products used in the home. Currently work is being done on fabric softeners and paint removers.

It might be useful to the Corporation to spend some time with staff of the Bureau of Chemical Hazards to determine exactly what in-depth toxicological studies are being done, or have been carried out, that could be related to household indoor air quality.

The National Joint Council of the Public Service of Canada, an interdepartmental group which includes union representation, is involved in developing norms and standards in the work environment on the issue of air quality. Under this group a compendium of norms for the office environment is being written by Treasury Board. They are also looking at a project involving the development of a system which will control and monitor energy consumption to maintain the working environment within prescribed comfort levels.

Public Works Canada have energy management guidelines which include temperature and humidity guidelines. Through the Architecture and Building Science Division, Public Works is conducting research on such physical concerns as thermal and acoustical comfort levels. Although the focus of the work is on the office environment, the Corporation might find it useful to obtain more detailed information on these programs.

While there are differences between house needs and those of the office or work environment. (As noted earlier, the standards need to be tighter for the home) there undoubtedly is some crossover in data. For example, ventilation system requirements and location of deliverability could be useful in housing design as well as office design.

In addition, the Atmospheric Environment Service, Dept. of the Environment, has done work on trying to establish a correlation between new standards on energy and indoor air quality.

Since the topic of indoor air quality is extremely broad, the research being conducted is widely dispersed. Under the purview of this contract it was considered sufficient to identify the various centers where work has been conducted and carried out by reputable research laboratories, a critique of their quality is beyond the scope of this contract since most work is of a medical-scientific nature. An annotated notation on the work being conducted by these centres could perhaps be carried out if the Corporation should so desire.

Environment International, Vo. 8, Numbers 1-6, which is the proceedings of an International Symposium on Indoor Air Pollution, contains technical and scientific papers on a wide range of indoor air quality matters. (See Appendix A.) Each article also contains references to an average of 10 related articles. In addition, a study done by Bruce Small for CMHC, "Indoor Air Pollution and Housing Technology" contains an extensive bibliography on work in the field.

A perusal of the above mentioned literature identifies the following as conducting a substantial amount of work in the general field:

1. Lawrence Berkeley Laboratories, Berkeley, California
2. Battelle, Columbus Laboratories, Columbus, Ohio
3. Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland
4. University of Cincinnati Medical Center, Kettering Laboratory,
Cincinnati, Ohio
5. Sandia National Laboratories, Albuquerque, New Mexico
6. Brookhaven National Laboratory, Upton, N.Y. (U.S. Dept. of Energy)
7. Yale University
8. John Spengler, Harvard University School of Public Health

In addition, several of the major companies are involved with their own research programs on air contaminants produced by their own products -- programs which, according to Health and Welfare officials, are of high quality. The most active companies include: Dow Chemical Co., 3M Company, Colgate Palmolive, Dupont, General Electric Research and Development Center, Schenectady, New York, Philip Morris Inc., Richmond, Virginia. Much of the work is being conducted through contracts from the Department of Energy, and the U.S. Environmental Protection Agency.

The U.S. National Science Council is active in the general topic. And, in the more traditional area of air quality, ASHRAE has researched humidity - temperature comfort levels for the indoor environment.

The World Health Organization is involved in a European Regional Programme on Chemical Safety and is conducting work in this area. A fair amount of work

is being conducted in Sweden and Denmark on the subject as well. The most active in this field appear to be the Division of Building Physics, Swedish National Testing Institute; Institute of Hygiene, University of Aarhus, Denmark, University of Stockholm, Institute on Ventilation, Norwegian Institute of Technology.

So far there does not seem to be a data base which could be used by the Corporation. In fact, much of the basic research to determine such things as: (1) indoor pollutant levels; (2) human exposure levels; (3) health effects -- and identification of high risk groups; (4) toxicity levels of products used in the home, has not yet been developed.

The Corporation might, however, want to consider setting up a bibliographic data base which would include annotated references to published work on air quality. Since the research in the area is not house-specific, such a project might best be done in an inter-departmental effort.

SECTION III

Current Data Bases

1. Statistics Canada Data

StatsCanada collects data on both mortality (deaths) and morbidity (illnesses and injuries), broken down by province and age and sex. In addition, the data is coded down as to general location, i.e., home, farm, industrial places, etc. The data is collected using the

International Classification of Diseases (ICD-9E) coding system -- a system established by the World Health Organization. The mortality figures are collected from coroner's reports while the morbidity (injury) figures are based on hospital admissions and collected through provincial health authorities. However, this data is not routinely published in detail, although details such as location of accidents would be available from StatsCanada on request and at a price. The complete identification of the type and amount of relevant data, their method of collection, their uses by StatsCanada and others as well as accessibility, and at what cost, may be useful or desirable but was judged to be beyond the purview of this contract, except for the brief description provided above.

2. CAIRE

Consumer and Corporate Affairs established a data base collection system in 1982. The objective of the system, Canadian Accident and Injury Report Reporting and Evaluation (CAIRE), is "to provide a data bank of accident/injury information which, in turn, will help organizations concerned with product safety to establish priorities and evaluate programs."

CAIRE collects data from five hospitals, out of more than 1 000 medical institutions nationwide - the Isaac Walton Killam Hospital, Halifax, Montreal General Hospital, Toronto Hospital for Sick Children, Pasqua Hospital, Regina, and Prince George Hospital,

British Columbia. CAIRE functions by collecting data on admissions to participating hospitals, including emergency room visits. Nearly 1 000 consumer products are coded, using the ICD-9E classification system also used by Statistics Canada. The term consumer product is used in a very broad way; some classifications, such as waffle iron, are very specific, while others, such as stairs, are very broad.

Semiannual reports will be issued. The first, covering April - September 1982, was just released. Again, the published reports are quite general, although more specific data would be available on request. CAIRE people, operating under a tight budget, are quick to point out the limitations of their system -- two of the five reporting hospitals deal exclusively with children and the sample is quite small. However, CAIRE personnel would be interested in discussing ways in which their program could be expanded through cooperative participation with other government agencies.

3. NEISS

CAIRE is patterned after the American system, National Electronic Injury Surveillance System, run by the Consumer Product Safety Commission, Washington, D.C. NEISS became operational in 1972, and also keeps injury statistics on some 1 000 products. Since both NEISS and CAIRE use the same methods of data collection and coding, although NEISS's budget and sources of raw data are much larger, it might be possible to use the two together to discern trends and problem areas.

The Consumer Product Safety Commission has used information collected from NEISS to carry out follow-up studies to determine causal relations in accidents. The Commission has done at least one general household study, and in-depth studies on various consumer products, including bathtub accidents. The Commission used to publish a Consumer Product Hazard Index which attempted to measure the risk involved in the use of a product. However, the last issue published was in 1977. A closer, detailed look at the workings of the Commission might well be warranted, should the Corporation proceed with a data base.

4. HASS

Since 1979 Britain has had its Home Accident Surveillance System (HASS), which also collects data on accidents. The HASS system has been used by the Building Research Establishment to conduct in-depth studies on causes of accidents. Unfortunately, while several people were aware of HASS no one was able to provide detailed information and attempts to locate data on the actual system were not successful, although references to it were made in studies by the British Research Establishment. From the information available it appears to be similar to NEISS.

5. CCOHS

Another data base which might prove of interest is being established by the Canadian Centre for Occupational Health and Safety in

Hamilton. CCOHS is apparently setting up a data collection system on chemical hazards. While this, obviously, is geared towards the occupational health field, it might be useful to take a closer look at what they are trying to do and to see if their data could be adapted to Corporation use.

Factors for Consideration

While the work statements #3 and #4 called for recommendations on establishment of a data base, the Corporation would have to focus its objectives a bit further before specific recommendations could be made on this subject because establishment of a data base is extremely expensive and all data bases are based on a regular and periodic collection data which is extremely expensive. For example, the StatsCan census data, collected via surveys, are often evaluated in terms of the cost of one particular question vs. its potential value. General accident surveillance systems, such as CAIRE, are expensive to operate. CAIRE, operating in only five hospitals, has a budget of \$100 000 for one year; this figure does not include the overhead for administrative personnel at Consumer and Corporate Affairs.

At this point in time, given the state of the knowledge in the subject of indoor air quality, a data base on household hazards could either focus on indoor air quality or on accidents and injuries, as two independent systems. There may not be economies in having a combined system. In other words, the Corporation could phase in one cluster of data relative to one subject or the

other. The source data for the two types of observations are completely different. Accidents occur at specific random time periods, while indoor air quality could be monitored on a continuous basis. Attempts at correlating the effects of indoor air quality with specific accidents would, in my opinion, have to be done through narrowly focused research studies, such as one recently completed for the National Research Council by Bruce Small, "Environmental Health Factors in Falling Accidents".

Some factors which CMHC may want to consider are:

1. The data base objective must be determined. I was told repeatedly that we should define what information we want very narrowly. Is the data base intended to obtain overall descriptive statistics; or is it to provide analytical data which could be used to develop preventive strategies, by providing the Corporation with the ability to investigate particular accidents with a view to developing causal analyses of home accidents.
2. Concurrent with (1) is the question of cost. How much money is the Corporation prepared to spend on a data base? As was described in Section I, there are a number of data bases in place, and maybe a more detailed identification of the existing systems and the data in them should be considered with a view to seeing if other information is needed, or a cooperative venture with one or all of these agencies might result in a more efficient, economic and effective data base.

3. What is CMHC's power to have an impact on this area? It may be desirable for the Corporation to bring into focus not only its interest but its jurisdiction and the potential power it has to influence situations in the house. For example, indoor air quality may be more appropriate to other agencies than to CMHC although, admittedly, there is an interrelationship especially through ventilation systems, but, in terms of scientists, etc. there may be other agencies with more impact. This is not to say that the Corporation should not be aware of efforts in indoor air quality with a view of incorporating research findings into house design, but more to realize that a cooperative effort with some other agencies may yield much more effective results.
4. If a data base on household accidents is to be developed, you would require a working definition of both terms -- what is considered an accident in the home environment? What definition of household is to be considered? Private dwelling, institutional dwelling, multi-unit dwelling, inside the home, outside the home, the yard, the fence?
5. Define the importance of the hazards when it comes to data collection. Priorities for data collection must be established. Factors which might be considered in establishing these priorities could include: (1) frequency of injuries; (2) severity of injuries (3) cost in terms of medical expense, or lost earnings; (4) risk of injury; (5) product life; (6) who is at greatest risk.

6. The system must also be able to differentiate between accidents caused by house design features and those related to human carelessness and/or behavior. Theoretically, the house should be accident proof, but, houses are not used the way they are designed. For example, a shoe left in the middle of the room could show up as a falling accident in the home in any general collection system, but its relevance for house design is probably nil.

A system such as CAIRE can be used to obtain general accident statistics. StatsCan data could also be used, especially for deaths. These systems, together, could give a general picture; however, in-depth follow-up studies, usually on a survey basis would probably be required to develop in-depth statistics which would provide the causal factors in home accidents which CMHC might be seeking.

7. One further factor would have to be considered, then. That is the level of detail of the data desired must be decided. Do you want data collected by location, age, sex, education; frequency of data collection? Do you want to include the incidence of injuries not resulting in the use of health treatment or fire services? Emergency room or hospital admission data is obviously biased towards more serious injuries, such as head injuries, or certain age groups or socio-economic groups. CAIRE, for example, is biased towards emergency room treatments, and therefore some type of injuries, such as head injuries, tend to show up more often. Other household accident victims, suffering from

different types of injuries, might use physicians' offices. Again, because CAIRE includes two children's hospitals in its group of five hospitals, there is a built-in bias towards children. There may well be a bias towards certain socio-economic groups as well -- who uses hospital emergency room facilities? The Corporation will have to decide which biases are important, and which are not, since almost any data collection system will include some biases.

Recommendations

Before proceeding further with the establishment of a data base on household hazards the Corporation may wish to focus its objectives, as discussed in Section II, by pursuing the following:

1. Take a closer look at the current data collection systems to see how they have developed, what their limitations are, how the data is collected, etc. Take an in-depth look at NEISS and how the Consumer Product Services Commission uses the data from the system. Look at the costs involved.
2. If general statistics are desired using hospital data already available, take a serious look at the possibility of collating information available from Statistics Canada and CAIRE in the area of accident and injury data collection.

3. Investigate with Consumer and Corporate Affairs the possibility of incorporating into CAIRE questions which would allow analysis of accidents by selected criteria. Or, alternatively, consider working with CCA to broaden the sample base.
4. Discuss with Jake Pauls the Building Use and Safety Institute to determine if it could be useful to the Corporation. He mentioned establishing a system for data exchange.
5. Conduct a household survey to determine what priorities should be considered in data on household hazards - i.e., cost of injury, frequency of occurrence, perception of risk. Information from such a survey could be used in conjunction with the broadly based data collection systems to give a focus to in-depth studies.
6. Initiate the establishment of an interdepartmental committee on household hazards to: a. exchange information; b. avoid duplication of efforts in a field which is basically multidisciplinary; and c. share resources - human and financial.
7. Establish liaison with other groups working on indoor air quality, by organizing a conference or establishing a newsletter on ongoing research and events in the field.

8. Prepare a summary-inventory of programs in the federal and provincial government related to household hazards -- indoor air quality and physical building safety. This could be expanded to include work carried out by U.S. agencies.
9. Prepare a listing of materials and products found and used in the home with their toxicity release levels. From such a listing it might be possible to determine materials whose use should be discouraged in the home. This list could be correlated with indoor pollutant levels when available.
10. Investigate with Public Works Canada and Treasury Board the work they are conducting in the area of occupational health and indoor air quality.
11. Consider working on the establishment of a bibliographic data base on indoor air quality which could be incorporated into the CISTI system at the National Research Council for updating and maintenance.

Contacts

Data Bases - Statistics

Jean Shaw, Mortality Statistics, Health Division, Statistics Canada.

Helene Aylwin, Project Manager, Special Projects and Requests, Morbidity Statistics, Health Division, Institutions and Agriculture Statistics Branch, Statistics Canada.

Dr. Ed Napke, Chief, Product Related Diseases Division, Bureau of Epidemiology, Health Protection Branch, Health and Welfare Canada (Poison Control Statistics).

J.B. Davies, Bureau of Epidemiology, Health Protection Branch, Health and Welfare Canada.

John Buchanan, Consumer Products Branch, Consumer and Corporate Affairs.

Daniel Barney, Consumer Products Branch, Consumer and Corporate Affairs.

Bob Plunkett, Canada Safety Council.

Joyce Coonley, Consumer Product Safety Commission, Washington, D.C.

Research - Information

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Allan Cotterill, Chemical Hazards Division, Product Safety Branch, Bureau of Consumer Affairs, Consumer and Corporate Affairs Canada.

Dr. Jim Davison, Architectural and Building Sciences Division, Public Works Canada.

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APPENDIX "A"

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APPENDIX "B"

Major Non-Transport Accident
Fatalities Occurring in the Home
1981

Unpublished data from
Statistics Canada

MAJOR NON-TRANSPORT ACCIDENT FATALITIES OCCURRING IN THE HOME(1), CANADA AND PROVINCES, 1981
TABLE 15

CAUSE OF FATALITY		Canada	Nfld.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Yukon	N.W.
Falls	M	358	3	2	12	15	33	142	24	33	28	64	-	2
	F	279	4	3	17	10	12	124	12	23	17	56	-	1
Drowning	M	43	1	1	1	-	14	14	3	2	2	5	-	-
	F	31	-	-	1	-	6	12	4	3	-	5	-	-
Industrial Type	M	97	-	-	3	6	25	27	9	4	13	10	-	-
	F	18	-	-	1	1	1	11	1	-	2	1	-	-
Fire	M	343	8	1	17	11	73	100	25	24	40	39	3	2
	F	208	5	-	8	6	43	75	15	7	18	28	-	3
Poisoning	M	144	2	-	5	5	10	48	8	5	8	53	-	-
	F	92	1	-	2	1	8	28	6	7	4	35	-	-
Suffocation	M	103	6	-	6	3	14	41	6	5	4	9	-	2
	F	58	-	-	2	4	11	23	5	5	1	7	-	-
Firearms	M	22	-	-	1	-	4	10	1	2	2	1	1	-
	F	5	-	-	-	-	-	2	1	-	-	-	1	1
TOTAL 7 Major Causes	M	1 110	20	4	45	40	173	382	76	75	104	181	4	6
	F	691	10	3	31	22	81	275	44	45	42	132	1	5
	T	1 801	30	7	76	62	254	657	120	120	146	313	5	11
Other non-transport	M	13	-	1	3	-	-	5	-	3	-	1	-	-
	F	4	-	-	1	-	-	2	-	1	-	-	-	-
TOTAL FATALITIES	M	1 123	20	5	48	40	173	387	76	78	104	182	4	6
	F	695	10	3	32	22	81	277	44	46	42	132	1	5
	T	1 818	30	8	80	62	254	664	120	124	146	314	5	11

(1) Excluding farm home and home premises.

Source: Statistics Canada

MAJOR NON-TRANSPORT ACCIDENT FATALITIES OCCURRING IN THE HOME(1), BY AGE AND SEX, CANADA 1981
TABLE 16

CAUSE OF FATALITY (2)		AGE												
		TOTAL	-1 yr	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
Falls	M	358	4	3	-	-	8	18	13	34	57	85	67	68
	F	279	3	4	2	-	2	4	9	13	15	53	66	108
Drowning	M	43	2	12	5	-	4	1	2	7	2	3	5	-
	F	31	1	10	1	-	1	3	2	2	2	4	4	1
Industrial Type	M	97	2	10	1	5	16	10	8	15	13	10	5	2
	F	18	-	8	2	-	1	1	-	1	-	2	1	2
Fire	M	343	10	24	19	14	58	44	29	35	45	38	13	4
	F	208	6	26	12	8	29	23	17	23	22	27	17	8
Poisoning	M	144	-	1	2	1	25	32	21	20	20	15	5	2
	F	92	-	1	-	1	8	22	17	16	11	14	3	-
Suffocation	M	123	11	9	1	3	8	9	7	15	14	12	4	2
	F	58	16	3	1	2	1	2	2	8	8	7	5	3
Firearms	M	22	-	-	1	4	10	2	2	-	1	2	-	-
	F	5	-	1	-	-	2	1	-	-	1	-	-	-
TOTAL 7 Major Causes	M	1 110	37	69	29	27	129	116	82	126	152	165	99	78
	F	691	26	43	18	11	44	56	47	63	59	106	96	122
	T	1 801	63	112	47	38	173	172	129	189	211	271	195	200
Other non-transport	M	13	1	-	-	1	-	1	2	2	3	2	1	-
	F	4	-	-	-	-	1	-	-	3	-	-	-	-
TOTAL FATALITIES	M	1 123	38	69	29	28	129	477	84	128	155	167	100	78
	F	695	26	43	18	11	45	56	47	66	59	106	96	122
	T	1 818	64	112	41	39	174	173	131	194	214	273	196	200

(1) Including farm home and home premises.

(2) List of causes according to Table 1. These are also major "home" accidents.

APPENDIX "C"

Accident Injuries Report, April/May 1983

Consumer Products

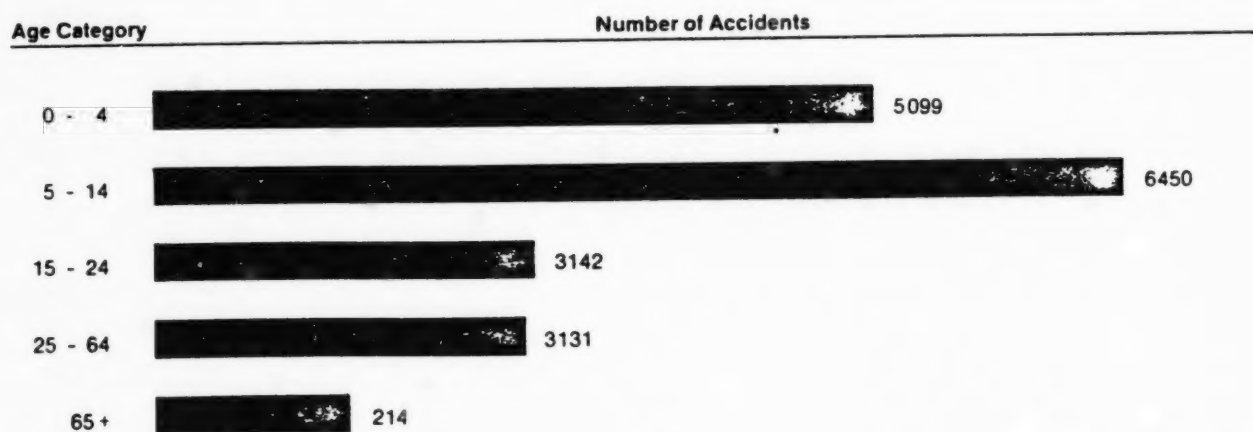
Canadian Accident Reporting and Evaluation (CAIRE)

Consumer and Corporate Affairs Canada

CAIRE Highlights — Summer 1982

- Because two out of the five hospitals reporting accidents specialize in the treatment of children, there is a greater representation of younger age-groups involved in accidents (64 per cent) than is true for the population as a whole.
- Bicycles are associated with over 11 per cent of accidents in the under-15 age groups but only three per cent of accidents to adults. The majority of injuries were head wounds.
- Stairs and steps are associated with a consistently high number of accidents. For the under-five-years group they are the highest classification by a considerable margin; this is also true for the over-65-years group, although the sample size is much smaller. In the latter age group, stairs and steps are associated with one-sixth of all reported accidents.
- Accidents associated with home and car repair and maintenance are also prominent. The combined total of accidents associated with motor vehicles and parts; metal parts and pieces; lumber, boards and panel pieces; and nails, screws and carpet tacks represent approximately 15 per cent of all accidents to adults. The number of accidents associated with ladders is approximately one per cent of the adult total.
- Playground apparatus including swings and slides are associated with six per cent of the accidents to the under-15-years group. The injuries requiring in-patient treatment included 13 fractured skulls.
- Household furniture such as beds, chairs and doors were associated with 6.5 per cent of accidents to the under-15-years group. Again, head injuries were the most frequent type of injury.
- Baseball (including similar sports such as softball and fastball) is the most dangerous summer sport, being associated with 5.5 per cent of accidents to adults, and 3.5 per cent of those to children. Football, soccer and ice hockey are also included among the activities most frequently associated with accidents.

Figure 1
Number of Accidents by Age Category
April - September 1982



Total number of accidents = 18,036

Figure 2
Place of Occurrence
Top 20 Products or Activities Involved in Accidents
April - September 1982

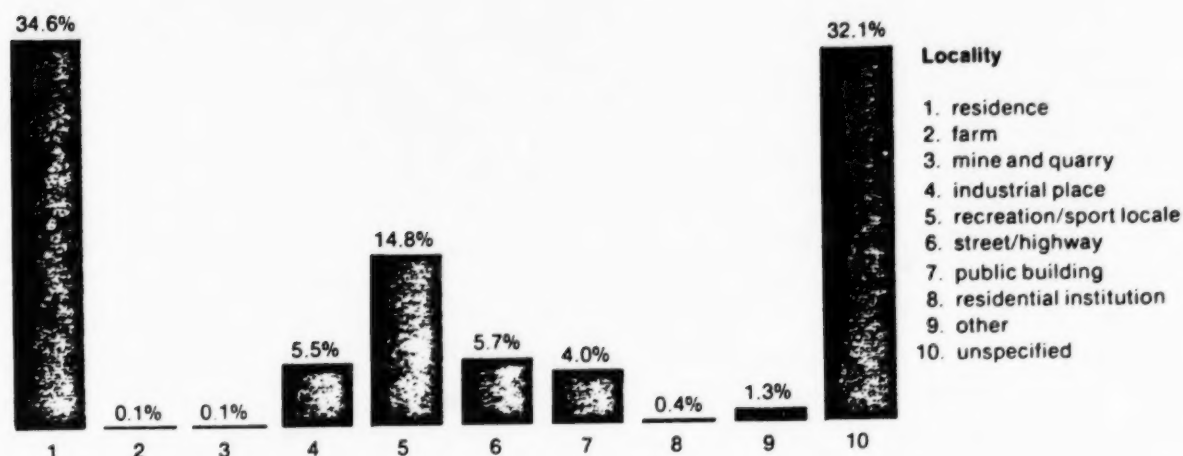


TABLE 2
Top 20 Products or Activities Involved in Accidents
April - September 1982

Product/Activity	Frequency	%
Bicycles or Accessories	1,528	8.5
Stairs or steps	1,043	5.8
Baseball	764	4.3
Glass Parts or Pieces	530	3.0
Motor Vehicles or Parts	432	2.4
Football	394	2.2
Knives	390	2.2
Doors	375	2.1
Nails, Screws, Carpet Tacks	367	2.1
Metal Parts or Pieces	345	2.0
Lumber, Boards, Panel Pieces	308	1.7
Beds	299	1.7
Swings or Swing Sets	299	1.7
Soccer	291	1.7
Hockey	238	1.4
Chairs	235	1.2
Roller Skating	216	1.2
Monkey Bars, Playground Apparatus	207	1.2
Foods	196	1.1
Slides	193	1.1
TOTAL	8,650	48.0%

Total number of accidents = 18,036

Note: Due to rounding, the total of the percentage column does not equal the sum of the components.

TABLE 1
Top 20 Products or Activities
Involved in Accidents by Age Category
April - September 1982

Product/Activity	Age Categories											
	OVERALL		0 - 4		5 - 14		15 - 24		25 - 64		65 +	
		%		%		%		%		%		%
Bicycles or Accessories	1,528	100	190	12.5	1,129	73.9	145	9.5	61	4.0	3	0.2
Stairs or Steps	1,043	100	545	52.3	255	21.6	108	10.4	129	12.4	36	3.5
Baseball	764	100	25	3.3	376	49.3	185	24.3	178	23.3	—	—
Glass Parts or Pieces	530	100	65	12.3	200	37.8	140	26.5	121	22.9	4	0.8
Motor Vehicles or Parts	432	100	67	15.5	96	22.3	127	29.4	129	29.9	13	3.0
Football	394	100	—	—	147	37.3	189	48.0	57	14.5	1	0.3
Knives	390	100	16	4.1	69	17.7	136	34.9	159	40.8	10	2.6
Doors	375	100	150	40.0	134	35.8	50	13.4	36	9.6	5	1.4
Nails, Screws, Carpet Tacks	367	100	48	13.1	149	40.6	73	19.9	94	25.7	3	0.9
Metal Parts or Pieces	345	100	20	5.8	34	9.9	94	27.3	194	56.3	3	0.9
Lumber, Boards, Panel Pieces	308	100	23	7.5	62	20.2	81	26.3	135	43.9	7	2.3
Beds	299	100	224	75.2	48	16.1	6	2.1	12	4.1	9	3.1
Swings or Swing Sets	299	100	125	41.8	168	56.2	3	1.0	2	0.7	1	0.4
Soccer	291	100	2	0.7	180	61.9	87	29.9	22	7.6	—	—
Hockey	238	100	3	1.3	119	50.0	84	35.3	32	13.5	—	—
Chairs	235	100	151	64.3	43	18.3	13	5.6	23	9.8	5	2.2
Roller Skating	216	100	2	1.0	165	76.4	39	18.1	10	4.7	—	—
Monkey Bars, Playground Apparatus	207	100	56	27.1	149	72.0	1	0.5	—	—	1	0.5
Foods	196	100	83	42.4	33	16.9	35	17.9	42	21.5	3	1.6
Slides	193	100	104	53.9	84	43.6	2	1.1	2	1.1	1	0.6
TOTAL	8,650	100	1,899	22.0	3,610	41.8	1,598	18.5	1,438	16.7	105	1.3

Relative percentage, by age category as compared to the total number of Accidents N= 18,036 (See Figure 1).

8,650 48.0 1,899 10.6 3,610 20.1 1,598 8.9 1,438 8.0 105 0.6

APPENDIX "D"

National Electronic Injury Surveillance System
Product Summary Report
1981

Consumer Product Services Commission
Washington, D.C.

Product Summary Report and NEISS Estimates of National Injury Incidents.

The Product Summary Report is a compilation of information derived from injuries treated in Hospital Emergency rooms participating in the National Electronic Injury Surveillance System (NEISS). The NEISS estimates are calculated from a sample of hospitals which are statistically representative of institutions with emergency treatment departments located within the United States and its Territories.

1. The data are specific to product codes and are presented in percentage by age group and disposition of the treated case.
2. The column titled sample count is the actual number of injury cases reported for the specific product code. The National estimate is a projection to the total U.S. population based upon the number in the sample count.
3. Certain variation within the National estimates should be expected due to deficiencies in human judgement and also in the sampling process.

Explanation of Variation Associated with Estimates

There are two types of variation possible in an estimate based on a sample survey--sampling and non-sampling.

Sampling errors occur because observations are made only on a sample, not on the entire population. An estimate is subject to sampling variability (or has a standard or sampling error associated with it) because it is based on one of a large number of all possible samples of the same size that could have been selected using the same sample design. Estimates derived from the different samples would differ from each other. The difference between a sample estimate and the average of all possible samples is called the sampling deviation. The standard or sampling error of a survey estimate is a measure of the variation among the estimates from all possible samples and, thus, is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. The relative standard error is defined as the standard error of the estimate divided by the value being estimated.

The "accuracy" of a survey result is determined by the joint effects of sampling and non-sampling errors. The table below presents the approximated relative standard (or sampling) error associated with a given estimate. The chances are that 68 out of 100 times an estimate from a sample of a given size would differ from the average result of all possible samples of the same size by less than the standard error.

Size of Estimate	Standard Error	Relative Standard Error or Coefficient of Variation (CV)
250*	176	.70
500*	253	.51
1,000	369	.37
2,500	636	.25
5,000	1,012	.20
10,000	1,703	.17
25,000	3,694	.15
50,000	6,972	.14
75,000	10,242	.14
100,000	13,509	.14
200,000	26,573	.13
300,000	39,634	.13
400,000	52,694	.13
500,000	65,755	.13
1,000,000	131,055	.13
1,500,000	196,354	.13
2,000,000	261,654	.13
2,500,000	326,953	.13

Example of use of table: An aggregate estimate of 1,000 injuries has a relative standard error of 37 percent, or a standard error of ± 369 injuries (37 percent of 1,000). The range (1,000 - 369, 1,000 + 369) represents a 68 percent confidence interval. However, it is more customary to use a 95 percent confidence interval, in which case the standard error should be multiplied by 1.96 producing a standard error of 723.

*These estimates are based on a very small number of cases. The standard errors for such estimates are therefore subject to a high degree of variability.

Non-sampling errors can be attributed to many sources, e.g., inability to obtain information about all cases in the sample, definitional difficulties, mistakes in recording or coding the data obtained and other errors of collection, response, processing, coverage, and estimation of missing data.

Recently, measures designed to protect the integrity of the raw data have been strengthened in an attempt to reduce to a minimum variation from human error in all product codes.

In consequence, the data and estimates appearing on succeeding pages are believed to be entirely suitable for all applications and uses for which such information is commonly employed.

S T A T I S T I C A L A N A L Y S I S S Y S T E M
 PRODUCT SUMMARY REPORT SOURCE: NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM
 U. S. CONSUMER PRODUCT SAFETY COMMISSION/HAZARD IDENTIFICATION AND ANALYSIS
 NATIONAL INJURY INFORMATION CLEARINGHOUSE

ALL PRODUCTS - CY 1981

06/03/82

CODE	PRODUCT DESCRIPTION	NATIONAL ESTIMATE	SAMPLE COUNT	AGE PERCENTS					DISP PERCENTS			UNK
				0-4	5-14	15-24	25-64	65-UP	T&R	HOSP	DOA	
0101	WASHING MACHINES WITHOUT WRINGERS OR OTH	145	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0102	WRINGER WASHING MACHINES	7194	135	36.0	19.7	10.8	19.9	13.6	80.3	19.7	0.0	0.0
0103	WASHING MACHINES WITH UNHEATED SPIN DRYE	162	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0104	ELECTRIC CLOTHES DRYERS WITHOUT WASHERS	412	4	0.0	45.1	0.0	54.9	0.0	100.0	0.0	0.0	0.0
0107	GAS CLOTHES DRYERS WITHOUT WASHERS	47	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0108	HANDLE IRONS	178	3	16.8	0.0	0.0	83.2	0.0	33.5	66.5	0.0	0.0
0110	ELECTRIC HEATING PADS	610	8	11.2	0.0	0.0	54.1	34.7	82.3	17.7	0.0	0.0
0111	PORTABLE ELECTRIC FANS	3699	57	9.9	21.7	19.7	33.9	14.9	100.0	0.0	0.0	0.0
0112	SEWING MACHINES OR ACCESSORIES	6608	104	12.9	16.3	23.9	42.6	4.2	99.7	0.3	0.0	0.0
0113	FLOOR BUFFERS OR WAXERS	436	6	0.0	0.0	0.0	64.2	0.0	100.0	0.0	0.0	0.0
0114	RUG SHAMPPOERS	271	5	0.0	0.0	29.9	70.1	0.0	100.0	0.0	0.0	0.0
0115	VACUUM CLEANERS	8971	153	12.7	14.5	11.8	49.3	11.7	98.3	1.7	0.0	0.0
0116	ELECTRIC BROOMS	691	12	9.1	0.0	19.9	52.2	18.9	100.0	0.0	0.0	0.0
0118	GAS WATER HEATERS	1747	25	0.0	10.3	14.4	70.7	4.6	88.6	11.4	0.0	0.0
0125	WATER SOFTENERS OR CONDITIONERS (APPLIAN	507	5	16.0	0.0	0.0	84.0	0.0	100.0	0.0	0.0	0.0
0126	WASHING MACHINES, NOT SPECIFIED	7103	149	12.5	9.2	24.7	48.6	7.0	99.0	1.0	0.0	0.0
0127	CLOTHES DRYERS, NOT SPECIFIED	3137	49	7.0	13.3	26.9	52.8	0.0	100.0	0.0	0.0	0.0
0131	PROPANE, LP, OR BUTANE GAS TANKS OR FITT	1579	24	3.4	13.0	0.0	75.9	7.7	93.4	6.6	0.0	0.0
0132	ELECTRIC BLANKETS OR SHEETS	320	4	0.0	0.0	0.0	64.3	35.7	78.6	21.4	0.0	0.0
0133	OTHER WATER HEATERS	113	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0134	WATER HEATERS, NOT SPECIFIED	4945	79	21.7	6.2	12.4	55.0	4.7	88.1	11.9	0.0	0.0
0136	DRINKING FOUNTAINS	1305	28	36.5	34.1	13.2	14.4	0.0	98.3	1.7	0.0	0.0
0137	AUTOMATIC DOORS OR DOOR OPENERS	1849	38	53.0	8.6	9.3	26.5	2.5	97.4	2.6	0.0	0.0
0138	AUTOMATIC GARAGE DOORS OR DOOR OPENERS	917	14	20.3	14.3	3.2	54.7	7.5	90.1	9.9	0.0	0.0
0139	INCINERATORS	541	8	0.0	64.0	4.2	31.8	0.0	100.0	0.0	0.0	0.0
0202	ELECTRIC COUNTER-MOUNTED COOKING SURFACE	451	6	28.3	43.5	23.3	5.0	0.0	95.0	5.0	0.0	0.0
0204	GAS COUNTER-MOUNTED COOKING SURFACES	253	3	45.2	45.2	0.0	9.6	0.0	100.0	0.0	0.0	0.0
0208	ELECTRIC REFRIGERATORS OR REFRIGERATOR/F	2024	35	16.8	4.1	28.2	42.1	8.7	97.7	2.3	0.0	0.0
0212	ELECTRIC CORN POPPERS	485	7	9.7	63.4	22.2	4.7	0.0	100.0	0.0	0.0	0.0
0213	ELECTRIC CAN OPENERS	493	7	21.3	37.8	6.0	18.5	16.4	100.0	0.0	0.0	0.0
0214	DISHWASHERS	4307	73	14.5	19.2	12.2	45.9	8.1	100.0	0.0	0.0	0.0
0215	ELECTRIC BLENDERS	1993	35	3.4	13.7	28.7	34.1	20.0	100.0	0.0	0.0	0.0
0216	ELECTRIC COUNTER-TOP OVENS, BROILERS, OR	388	6	26.7	0.0	0.0	73.3	0.0	100.0	0.0	0.0	0.0
0217	ELECTRIC COFFEE MAKERS OR TEAPOTS	492	7	46.6	5.0	6.1	37.8	4.6	100.0	0.0	0.0	0.0
0218	ELECTRIC IRON OR BATTERY-POWERED KNIVES	2540	30	6.8	4.1	33.0	50.7	5.3	100.0	0.0	0.0	0.0
0219	ELECTRIC DEEP FRYERS	360	8	6.8	8.3	21.8	63.2	0.0	100.0	0.0	0.0	0.0
0221	FOOD WARNERS	1797	22	12.4	11.6	33.6	36.3	6.0	100.0	0.0	0.0	0.0
0222	ELECTRIC FRYING PANS AND SKILLETS	135	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0223	ELECTRIC GRIDDLES	879	14	18.5	15.3	2.8	54.4	8.9	96.9	3.1	0.0	0.0
0224	ICE MAKERS (SEPARATE FROM REFRIGERATORS)	30	1	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0231	ELECTRIC MIXERS	2014	31	11.6	6.6	32.2	34.7	14.9	100.0	0.0	0.0	0.0
0232	ELECTRIC SCISSORS	174	3	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0233	ELECTRIC SLICERS OR CHOPPERS	1428	22	6.4	8.9	54.1	30.6	0.0	100.0	0.0	0.0	0.0
0234	TOASTERS	784	20	48.7	3.1	3.1	28.2	13.7	86.3	13.7	0.0	0.0
0235	ELECTRIC WAFFLE IRONS	304	5	8.0	0.0	35.4	30.0	26.6	100.0	0.0	0.0	0.0
0236	FAUCET WATER HEATERS	49	2	45.8	56.2	0.0	0.0	0.0	100.0	0.0	0.0	0.0
0237	GARBAGE DISPOSERS	778	14	2.9	34.3	3.1	45.6	13.9	100.0	0.0	0.0	0.0
0238	DRY HEAT IRONS	167	7	56.3	29.2	0.0	14.6	0.0	100.0	0.0	0.0	1.6

S T A T I S T I C A L A N A L Y S I S S Y S T E M
 PRODUCT SUMMARY REPORT SOURCE: NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM
 U. S. CONSUMER PRODUCT SAFETY COMMISSION/HAZARD IDENTIFICATION AND ANALYSIS
 NATIONAL INJURY INFORMATION CLEARINGHOUSE

ALL PRODUCTS - CY 1981

06/03/82

CODE	PRODUCT DESCRIPTION	NATIONAL ESTIMATE	SAMPLE COUNT	AGE PERCENTS					DISP PERCENTS			UNK
				0-4	5-14	15-24	25-64	65-UP	Y&R	HOSP	DOA	
0239	STEAM IRONS	575	19	49.8	22.7	18.0	9.4	0.0	98.9	9.1	0.0	0.0
0240	ELECTRIC KNIFE SHARPENERS	81	1	0.0	0.0	0.0	0.0	100.0	100.0	0.0	0.0	0.0
0241	ROTISERIES	47	2	51.9	0.0	0.0	48.1	0.0	100.0	0.0	0.0	0.0
0245	REFRIGERATORS OR REFRIGERATOR/FREEZERS,	17773	360	11.3	9.2	21.8	54.8	0.0	97.8	2.2	0.0	0.0
0247	IRONS, NOT SPECIFIED	13416	359	57.7	9.9	12.5	19.6	0.4	97.6	2.4	0.0	0.0
0250	RANGE OR OVEN ACCESSORIES	4995	81	21.9	12.2	22.3	28.7	14.9	92.2	7.8	0.0	0.0
0252	TRASH COMPACTORS	794	11	0.0	16.6	37.2	46.1	0.0	100.0	0.0	0.0	0.0
0253	CLOTHES STEAMERS	30	1	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0
0257	COUNTER-MOUNTED COOKING SURFACES, NOT SP	673	10	9.1	36.2	27.3	27.4	0.0	100.0	0.0	0.0	0.0
0259	ELECTRIC RANGES (WITH OVENS)	2313	34	29.1	6.9	22.9	35.2	6.0	100.0	0.0	0.0	0.0
0260	GAS RANGES (WITH OVENS)	4114	78	6.5	11.8	31.5	42.7	7.5	98.5	9.5	0.0	0.0
0261	ELECTRIC OVENS	545	7	19.3	4.2	54.9	21.7	0.0	100.0	0.0	0.0	0.0
0262	GAS OVENS	3520	58	6.7	6.8	36.1	43.1	7.3	93.4	6.6	0.0	0.0
0263	FREEZERS (SEPARATE FROM REFRIGERATORS)	5150	87	10.4	11.9	18.1	56.1	3.6	93.4	4.6	0.0	0.0
0264	MICROWAVE OVENS	2059	31	21.6	9.7	26.2	31.3	11.3	95.6	4.4	0.0	0.0
0265	OTHER OVENS	104	2	0.0	0.0	0.0	100.0	0.0	100.0	0.0	0.0	0.0
0266	OVENS, NOT SPECIFIED	12405	279	34.1	8.9	14.4	37.4	5.1	94.3	5.7	0.0	0.0
0267	OTHER RANGES (WITH OVENS)	138	5	78.4	0.0	0.0	21.6	0.0	100.0	0.0	0.0	0.0
0268	SLOW COOKERS	779	14	31.0	3.1	13.5	52.4	0.0	94.2	5.8	0.0	0.0
0269	ELECTRIC KETTLES OR HOT POTS	285	5	18.4	0.0	28.4	0.0	53.2	100.0	0.0	0.0	0.0
0270	ICE CRUSHERS	503	11	4.5	41.5	19.4	34.6	0.0	100.0	0.0	0.0	0.0
0271	JUICERS	172	2	0.0	0.0	17.0	0.0	0.0	100.0	0.0	0.0	0.0
0272	ELECTRIC FOOD GRINDERS	251	4	9.0	0.0	0.0	54.7	36.3	63.6	36.4	0.0	0.0
0273	RANGES, NOT SPECIFIED	12756	251	24.7	16.0	18.0	34.0	7.4	94.6	5.4	0.0	0.0
0274	ICE CREAM MAKERS	247	3	45.0	0.0	18.1	36.9	0.0	100.0	0.0	0.0	0.0
0275	FOOD PROCESSORS	2108	36	8.1	7.0	7.6	70.8	6.5	100.0	0.0	0.0	0.0
0301	ELECTRIC AIR CONDITIONERS	632	12	7.4	3.6	24.7	64.3	0.0	100.0	0.0	0.0	0.0
0302	GAS AIR CONDITIONERS	47	2	48.1	0.0	0.0	0.0	51.9	100.0	0.0	0.0	0.0
0304	HUMIDIFIERS	303	7	16.3	61.3	0.0	14.9	7.5	100.0	0.0	0.0	0.0
0305	VAPORIZERS	744	16	91.8	0.0	0.0	3.0	5.1	77.7	22.3	0.0	0.0
0306	DEHUMIDIFIERS	307	3	38.5	0.0	0.0	35.2	26.4	100.0	0.0	0.0	0.0
0308	BOILERS	574	14	3.9	6.7	22.2	67.2	0.0	100.0	0.0	0.0	0.0
0309	COAL FURNACES	122	1	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0
0310	GAS FURNACES	2566	42	11.1	13.9	25.4	42.9	6.6	68.1	27.3	4.6	0.0
0311	OIL FURNACES	545	6	0.0	0.0	14.9	85.1	0.0	85.1	14.9	0.0	0.0
0312	ELECTRIC BASEBOARD HEATERS	843	10	68.8	9.6	0.0	21.6	0.0	100.0	0.0	0.0	0.0
0316	WOOD BURNING FIREPLACES, FACTORY BUILT	91	2	24.8	0.0	0.0	75.2	0.0	100.0	0.0	0.0	0.0
0318	ELECTRIC FURNACES	108	1	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
0320	HOME RADIATORS	13905	295	38.4	21.4	10.4	23.9	6.0	98.3	1.7	0.0	0.0
0322	FURNACES, NOT SPECIFIED	3154	59	7.7	12.1	18.3	52.1	9.8	93.5	6.5	0.0	0.0
0334	GAS-BURNING FIREPLACES, FACTORY BUILT	23	1	0.0	100.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0
0336	BUILT-IN FIREPLACES	2130	41	70.8	11.5	1.1	16.6	0.0	98.9	1.1	0.0	0.0
0337	HOT WATER PIPES	2064	26	2.5	30.8	23.4	43.2	0.0	94.6	5.4	0.0	0.0
0338	STEAM PIPES	761	15	6.4	3.2	37.1	53.3	0.0	97.0	3.0	0.0	0.0
0340	THERMOSTATS (FOR HEATING OR COOLING SYST	179	3	0.0	0.0	45.1	54.9	0.0	100.0	0.0	0.0	0.0
0342	FIREPLACES, NOT SPECIFIED	11351	179	54.6	16.5	9.2	17.8	1.9	95.3	4.7	0.0	0.0
0344	FANS, NOT SPECIFIED	8729	169	16.8	16.1	15.1	44.9	6.8	96.3	3.7	0.0	0.0
0348	PORTABLE ELECTRIC HEATERS	341	6	13.3	0.0	28.0	35.7	23.0	100.0	0.0	0.0	0.0
0350	GAS OR LP FLOOR HEATERS (RESTING ON FLOOR	29)	5	10.0	30.6	0.0	59.4	0.0	100.0	0.0	0.0	0.0

STATISTICAL ANALYSIS SYSTEM
 PRODUCT SUMMARY REPORT SOURCE: NATIONAL ELECTRONIC INJURY SURVEILLANCE SYSTEM
 U. S. CONSUMER PRODUCT SAFETY COMMISSION/HAZARD IDENTIFICATION AND ANALYSIS
 NATIONAL INJURY INFORMATION CLEARINGHOUSE

ALL PRODUCTS - CY 1981

06/03/82

CODE	PRODUCT DESCRIPTION	NATIONAL ESTIMATE	SAMPLE COUNT	AGE PERCENTS					T&R	DISP PERCENTS		DOA	UNK
				0-4	5-14	15-24	25-64	65-UP		HOSP			
0356	SEWAGE PIPES OR COVERS	1704	29	11.8	45.9	11.5	24.4	6.5	100.0	0.0	0.0	0.0	0.0
0357	OTHER AIR CONDITIONERS	680	16	13.3	15.9	28.9	38.6	3.3	96.7	3.3	0.0	0.0	0.0
0358	AIR CONDITIONERS, NOT SPECIFIED	6713	112	12.8	15.6	21.9	48.6	1.2	96.5	3.5	0.0	0.0	0.0
0359	INSTALLED ELECTRIC FANS	2343	32	12.3	8.1	17.0	55.0	7.5	100.0	0.0	0.0	0.0	0.0
0360	ELECTRIC WALL HEATERS	91	1	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
0361	OTHER ELECTRIC HEATERS	61	2	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
0362	PORTABLE GAS OR LP HEATERS (NONCATALYTIC)	49	2	54.2	0.0	0.0	45.8	0.0	54.2	45.8	0.0	0.0	0.0
0364	OTHER GAS OR LP HEATERS	209	2	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
0366	CATALYTIC HEATERS	122	1	100.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
0367	COAL OR WOOD-BURNING STOVES	8830	112	32.0	9.1	14.0	42.7	2.3	97.9	2.1	0.0	0.0	0.0
0368	GASOLINE HEATERS (NONCATALYTIC)	516	8	41.9	15.7	27.2	15.2	0.0	100.0	0.0	0.0	0.0	0.0
0369	OTHER HEATERS OR HEATING SYSTEMS	1403	21	32.3	14.1	29.8	20.5	3.2	94.2	0.0	0.0	0.0	5.8
0370	HEATERS OR HEATING SYSTEMS, NOT SPECIFIC	8644	150	42.2	11.5	15.6	25.5	5.2	95.6	3.4	0.0	0.0	0.9
0371	DUCTWORK FOR HEATING OR COOLING SYSTEMS	5122	73	45.5	14.1	12.4	26.1	1.8	96.6	1.8	0.0	0.0	1.6
0372	BRICK, STONE OR MASONRY CHIMNEYS	349	4	0.0	50.6	23.2	26.1	0.0	100.0	0.0	0.0	0.0	0.0
0373	METAL CHIMNEYS, STOVEPIPES, OR FLUES	419	5	18.7	25.1	5.4	50.8	0.0	100.0	0.0	0.0	0.0	0.0
0375	ELECTRIC HEATERS, NOT SPECIFIED	596	13	48.5	19.8	0.0	18.1	13.6	84.7	15.3	0.0	0.0	0.0
0376	GAS OR LP HEATERS, NOT SPECIFIED	1126	8	17.7	8.1	33.2	30.2	10.8	88.4	11.6	0.0	0.0	0.0
0377	PIPES, NOT SPECIFIED	32306	708	5.8	26.1	24.7	38.9	4.4	98.8	1.2	0.0	0.0	0.0
0378	CHIMNEYS, NOT SPECIFIED	1076	18	0.0	2.1	11.0	86.9	0.0	100.0	0.0	0.0	0.0	0.0
0382	OTHER RADIATORS (NONVEHICULAR)	298	6	44.4	38.0	7.6	10.0	0.0	100.0	0.0	0.0	0.0	0.0
0383	OTHER PIPES	3480	50	4.6	15.6	20.6	54.6	1.4	92.7	7.3	0.0	0.0	0.0
0384	FLOOR FURNACES (BUILT INTO FLOOR)	762	16	97.0	3.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0
0387	RADIATORS, NOT SPECIFIED	9292	253	25.3	18.1	24.5	30.3	1.9	98.5	1.5	0.0	0.0	0.0
0399	KEROSENE OR OIL HEATERS	3070	37	48.1	28.6	12.1	11.2	0.0	100.0	0.0	0.0	0.0	0.0
0401	NONELECTRIC CAN OPENERS	894	14	3.3	15.7	23.5	45.7	11.7	96.7	3.3	0.0	0.0	0.0
0405	UNPOWERED COFFEE MAKERS OR TEAPOTS	696	11	20.2	7.5	34.2	26.4	11.6	100.0	0.0	0.0	0.0	0.0
0407	UNPOWERED CUTLERY OR KITCHEN KNIVES	87769	1341	3.9	12.1	27.8	52.2	3.9	98.8	1.1	0.0	0.0	0.0
0408	IRONING BOARDS OR COVERS	2274	59	38.3	5.5	12.7	35.0	8.5	98.9	1.1	0.0	0.0	0.0
0412	PRESSURE COOKERS OR CANNERS	2665	44	5.6	6.3	20.1	61.4	6.5	87.2	12.8	0.0	0.0	0.0
0413	WASTE CONTAINERS, TRASH BASKETS, OR REFU	23885	458	7.9	29.2	20.3	33.8	8.3	96.3	3.7	0.0	0.0	0.0
0414	HOMELECTRIC SLICERS OR CHOPPERS	753	10	0.0	10.4	32.6	57.0	0.0	100.0	0.0	0.0	0.0	0.0
0415	WAX CANDLES OR PARAFFIN	3179	69	10.1	20.2	20.7	44.2	4.8	100.0	0.0	0.0	0.0	0.0
0416	CORKSCREWS	464	9	0.0	4.9	9.8	85.4	0.0	95.1	4.9	0.0	0.0	0.0
0417	FLATWARE	6567	140	31.3	21.5	12.9	31.5	2.7	97.5	2.5	0.0	0.0	0.0
0419	TIE RACKS, BELT RACKS, OR OTHER CLOTHES	7662	155	31.8	29.7	11.5	21.3	5.7	99.1	0.9	0.0	0.0	0.0
0420	MANUAL SCISSORS	5581	101	11.0	25.5	28.2	24.5	10.8	97.3	2.7	0.0	0.0	0.0
0421	HOMELECTRIC KNIFE SHARPENERS	541	6	0.0	0.0	27.6	57.4	15.0	100.0	0.0	0.0	0.0	0.0
0422	BOTTLE OPENERS	316	5	25.6	0.0	29.4	7.7	37.3	100.0	0.0	0.0	0.0	0.0
0424	GLASS DRINKING GLASSES	80421	1246	5.0	8.7	37.2	47.1	2.1	99.5	0.5	0.0	0.0	0.0
0427	ICE PICKS	2661	61	1.8	10.1	26.2	54.8	7.1	95.1	4.9	0.0	0.0	0.0
0428	KITCHEN GADGETS, NOT ELSEWHERE CLASSIFIE	3775	71	26.9	12.2	18.6	42.3	0.0	96.3	3.7	0.0	0.0	0.0
0429	FOOD SKEWERS	505	10	0.0	4.5	22.1	73.4	0.0	100.0	0.0	0.0	0.0	0.0
0431	TOOTHPICKS OR HORS D'OEUVRES PICKS	8083	156	8.6	29.7	19.2	40.0	2.5	98.7	1.3	0.0	0.0	0.0
0432	TRAYS	1639	36	12.1	1.4	8.4	66.1	11.9	100.0	0.0	0.0	0.0	0.0
0433	CANDLESTICKS OR HOLDERS	700	11	28.8	19.1	15.4	36.8	0.0	100.0	0.0	0.0	0.0	0.0
0434	DOORSTOPS	1630	25	17.0	19.5	12.2	38.4	12.9	93.6	6.4	0.0	0.0	0.0
0435	KITCHEN MIXING BOWLS, CANISTERS, OR SIMI	3820	55	18.1	16.6	21.1	41.7	3.6	95.6	3.4	0.0	0.0	0.0
0436	POT HOLDERS, OVEN MITTS, OR HOT PADS	345	8	0.0	7.8	11.1	61.6	19.5	100.0	0.0	0.0	0.0	0.0

APPENDIX "E"

Consumer Product Hazard Index

(Sample)

Consumer Product Services Commission

Washington, D.C.

Consumer Product Hazard Index - 1975

PRINCIPAL PRODUCT LIST

<u>Rank¹</u>	<u>Product Number²</u>	<u>Product Description³</u>	<u>AFSI⁴</u>
1	1202	Bicycles & Bicycle Equipment, Inc. Add-On Features (Baskets, Horns, Non-Standard Seats, Handlebars).....	30.584
2	1842	Stairs (Incl. Folding Stairs) Steps, Ramps, and Landings.....	21.023
3	1401	Power Lawnmowers & Unspecified Lawnmowers.....	11.977
4	1211	Football, Activity, Related Equipment & Apparel.....	11.719
5	1204	Baseball, Activity, Related Equipment & Apparel.....	11.052
6	1241	Swings, Slides, Seesaws & Playground Equipment.....	10.463
7	0645	Tables, Non-Glass & Unspecified.....	9.462
8	0601	Beds, Including Springs & Frames.....	7.206
9	1819	Nails, Carpet Tacks & Screws, Thumbtacks.....	7.147
10	0602	Chairs, Sofas & Sofa Beds.....	6.827
11	1231	Swimming Pools & Related Equipment.....	6.346
12	1205	Basketball, Activity, Related Equipment & Apparel.....	6.278
13	0910	Liquid Fuels, Kindling, Illuminating (Incl. Gasoline, Kerosene, Lighter Fluid, Fuel for Chafing Dishes & Fondue Pots, Charcoal Starter, etc.).....	5.450
14	1807	Floors & Flooring Materials.....	5.421
15	0902	Bleaches & Dyes, Cleaning Agents, Caustic Compounds.....	5.383

Consumer Product Hazard Index - 1975 (cont'd)

PRINCIPAL PRODUCT LIST

<u>Rank¹</u>	<u>Product Number²</u>	<u>Product Description³</u>	<u>AFSI⁴</u>
16	1815	Architectural Glass, Incl. Glass Doors.....	5.323
17	1216	Snow Skiing & Related Equipment.....	4.278
18	0604	Desks, Storage Cabinets, Glass Shelves, Bookshelves & Magazine Racks.....	4.140
19	0610	Bathtubs, Non-Glass Shower Enclosures & Shower Structures Other Than Doors & Panels.....	3.548
20	0921	Household Chemical Products Other Than Bleaches & Dyes Cleaning Agents, Caustics, Paints, Waxes (e.g., Fumigants, Adhesives, Photographic Chemicals, Carbon Tetrachloride, Acid, Chemical Deodorizer).....	3.453
21	0202	Cooking Ranges, Ovens & Related Equipment.....	3.385
22	0618	Ladders & Stools.....	3.092
23	1614	Clothing, Incl. Day & Night Wear.....	2.977
24	0801	Home Workshop Power Saws & Unspecified Saws.....	2.872
25	1308	Skates, Scooters & Skateboards.....	2.806

- 1 Excluded from this Principal Product List are products either not under CPSA jurisdiction, questionably under CPSA jurisdiction, or products lacking in sufficient specificity.
- 2 Except where two or more NEISS products have been grouped, product numbers correspond to product codes as they appear in the NEISS Coding Manual. For grouped products, the product number is the NEISS product code for a typical product in the group. In the listings these grouped product numbers are starred (*).
- 3 In some cases, the product descriptions include more than one NEISS product category.
- 4 The Age Adjusted Frequency-Severity Index (AFSI) was derived by multiplying the estimate of the numbers of injuries treated in emergency rooms for a product category by the mean severity of these injuries, multiplying this by 2.5 for the injuries occurring to children (0 - 14 years) to bring the age 14 and younger population to par with the 15 and older population, then summing all such weighted injury severity values. This sum was then divided by 1 million and the last three digits of the resulting number were truncated to obtain the AFSI index number.

POOR

QUALITY

ORIGINAL

